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ABSTRACT

This report collects the findings of three sequential evaluation studies of a network system approach to the dissemination of techniques of individualizing instruction in elementary schools. In the network approach, college education personnel trained coordinators from school districts who, in turn, disseminated individualization materials and techniques to classroom teachers. Results of teacher surveys showed that teachers rated initial training sessions and summer workshops effective and found that participation in the training increased their use of individualizing techniques. Third and fifth grade students' achievement and attitude data from 1974 and 1976 were analyzed cross-sectionally and longitudinally to investigate program effects in three schools: Model, Parallel, and Atypical. The Model school was designated as a model of the use of individualized instruction. The Parallel school had a population similar to the Model school but used less individualization. The Atypical school consisted of high-IQ children of middle to upper middle class parents. On almost all achievement subtests, Atypical scores were higher than Model scores. Model scores were higher than Parallel. Reference ability, an outcome emphasized in the individualization program, was greater in the Model school. Attitude data indicated that the individualized programs promoted better attitudes among children toward school and school subjects. The dissemination effort resulted in the development of an undergraduate course in open education at the network college. (Author/RH)

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NETWORK EVALUATION REPORT 1978

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EVALUATION REPORT

NETWORK 1975 - 1978

Cooperative Program Involving:
Millersville State College
The Pennsylvania Department of Education
and
Selected Pennsylvania School Districts

Division of Education
Office of Evaluation and Research
Millersville State College
Millersville, Pennsylvania

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September 1978

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INTRODUCTION

For the past four years Millersville State College, through the Office of Educational Development, has been involved in a network system whose major objective is the dissemination of techniques of individualizing instruction in the elementary school. This network system (see Figure 1) was an outgrowth of the previous Summer Happening programs which were conducted solely in the Stayer Research and Learning Center (Anttonen & Brunner 1974). Basically, coordinators from the fourteen Network School Districts were trained in the school year 1974-1975 at Millersville State College, Stayer Research and Learning Center. Twelve of the fourteen network coordinators then conducted workshops at their school districts during the summer of 1975 and received help, when needed, from the staff of the Stayer Research and Learning Center.

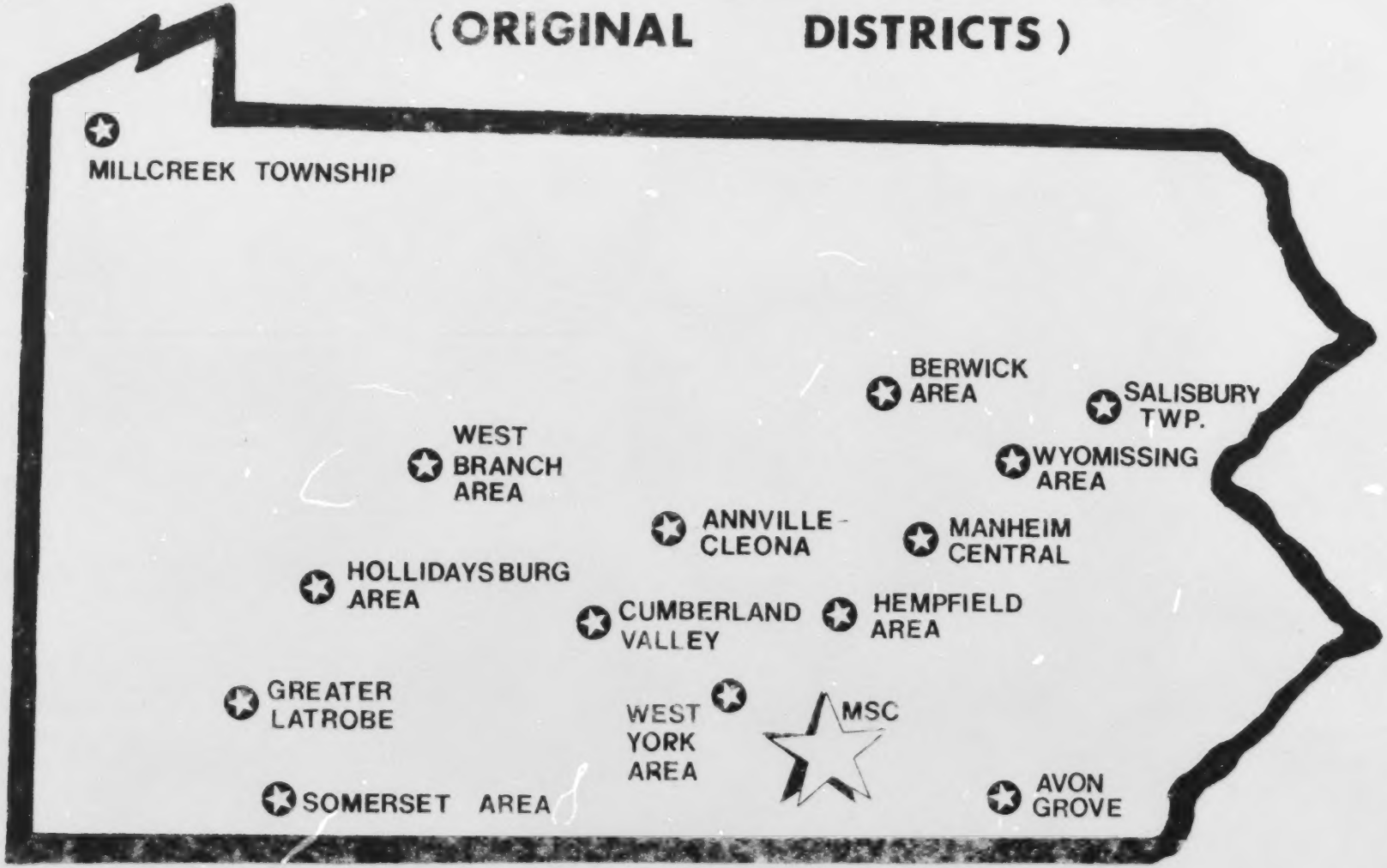
In the regular school year, 1975-1976, Millersville State College, through the Office of Educational Research and Evaluation, conducted a followup study of the teachers who were involved in the twelve 1975 Summer Network Programs (Anttonen & Jernegan, 1976). Once again, in the summer of 1976, a network program similar in nature to the summer of 1975 was undertaken. In addition, during the fall of 1976, data based on children's academic achievemnet and school attitude was gathered from a model network program located in the western part of Pennsylvania (Anttonen & Broome, 1977).

Due to the success of the previous two summer network programs, workshops were again offered in seven network school districts during the summer of 1977 and included a new topic: Identification of Individual Learning Styles. In the summer of 1978, the workshops were again conducted in 8 selected network schools with a new thrust delvelping in the area of the gifted. While not all network districts were involved in this new venture, it was the first attempt in some to begin training regular classroom teachers in instructing the gifted child in their classrooms.

At the completion of each of the network programs, 1974 through 1977, an evaluation report was prepared through the Office of Education Research and Evaluation (Anttonen and Brunner 1975; Anttonen and Jernegan 1976; Anttonen and Broome 1977). Each of these reports highlighted a different evaluation aspect of the network program. The purpose of the present report

Figure 1

NETWORK SCHOOLS
(ORIGINAL DISTRICTS)



is to bring together under one document the findings of the three previous network evaluation studies, tracing the initial affective impact of the program to its impact on teacher-perceived behavioral change and finally to changes in children's achievement and attitude. In addition, the report will highlight not only the educational change that the network program has had upon the schools involved, but also the impact the program has had on Millersville State College. The first two sections of the report will deal with data gathered on 1) the teacher's feeling about the program, and 2) the teachers' use of individualizing techniques in the regular school year. The third section of the report will present children's achievement and attitude data gathered from a model network school district. The final section will deal with the effect of the program upon Millersville State College.

TEACHERS' REACTION TO INITIAL NETWORK TRAINING

In the academic year 1974 and 1975, a network school program was established as a joint venture between fourteen Pennsylvania School Districts and Millersville State College, Stayer Research and Learning Center. During the school year coordinators from each of these districts were trained in the concepts of individualized instruction. Each coordinator attended during the school year four two-day meetings dealing with the concepts that would be included in the summer program in their school district in the summer of 1975. Of the fourteen school districts who had been chosen, twelve conducted summer programs, and the results of five of these programs were tabulated for presentation in the Evaluation Report of 1975 (see Anttonen and Brunner 1975). The decision to select this sample was based on the fact that seven of the districts had programs in August and the data from these would not be available for inclusion in the 1975 evaluation report. Also, because of the planned followup activity for 1975-1975, each of the twelve districts would provide information as to the regular school year use the teachers made of the oncepts taught in the summer. The data from this followup will be presented in the next section.

All five of the network school programs used an identical evaluation form asking them to respond regarding the effectiveness and importance of the program conducted in the network school districts. (see Appendix A) Basically, the evaluation form consisted of a set of concepts pertaining to individualized instruction which had been presented during the workshops. The teachers were to judge both the effectiveness of the presentation on a 4-point scale and the worth for inclusion in the future on a 3-point scale. Table 1 presents the results in terms of the number and percent of teachers who responded to each of the effectiveness and importance categories. As can be seen from Table I over 50% of the teachers rated the presentation on Making Games, Packets, and Learning Stations as Very Effective. Eight of the remaining presentations, Philosophy, Scheduling, Contracts, Team Teaching, Record Keeping, Communications Skills, Math Organization, and Social Studies, were rated as Effective or Very Effective by at least 85% of the teachers (see Figure 2). One presentation, Parent Involvement, was rated as having little

or no effect by 21% of the teachers.

In addition to rating the effectiveness of the presentation for each of the individualized instruction concepts, the network teachers were also asked to rank the importance of each concept presentation (see Table I). Table I reveals that 80% of the teachers thought that the concepts of Philosophy, Scheduling and Organizing, Making Games, Contracts, Packets, Team Teaching Record Keeping, Communication Skills and Learning Stations, should be included in future network programs. Sixty five to 80% of the teachers thought that the concepts of Social Studies Organization, Math Organization, and Parent Involvement, should be included in future programs.

Along with the objective check list items of the Teacher Evaluation Instrument, there were four general questions included on the final page of the form (see Appendix A). Responding to the question on the most valuable part of the program, teachers mentioned Games (57), Learning Centers (50), New Ideas (43), Packets (18) and Materials and Machinery (15) as being the most valuable part of their workshop instruction. The computation of the other three questions was not possible, since no categorical response was mentioned more than ten times.

Thus, the results of the initial network affective evaluation revealed that the first training sessions were seen as effective by the majority of the teachers and that the concepts covered should be included in future programs. Since the goal of these initial training sessions was to create an awareness amongst teachers about the new methods of instruction for an individualized classroom, the network training sessions were viewed as having accomplished this end. However, if the network program was to go beyond a possible Hawthorne effect, then there was a need to examine more than the summer data and gather information about the teacher's use during the regular school year of the individualized instruction concepts taught during the workshop. In the next section the results of such an analysis will be presented.

TABLE I

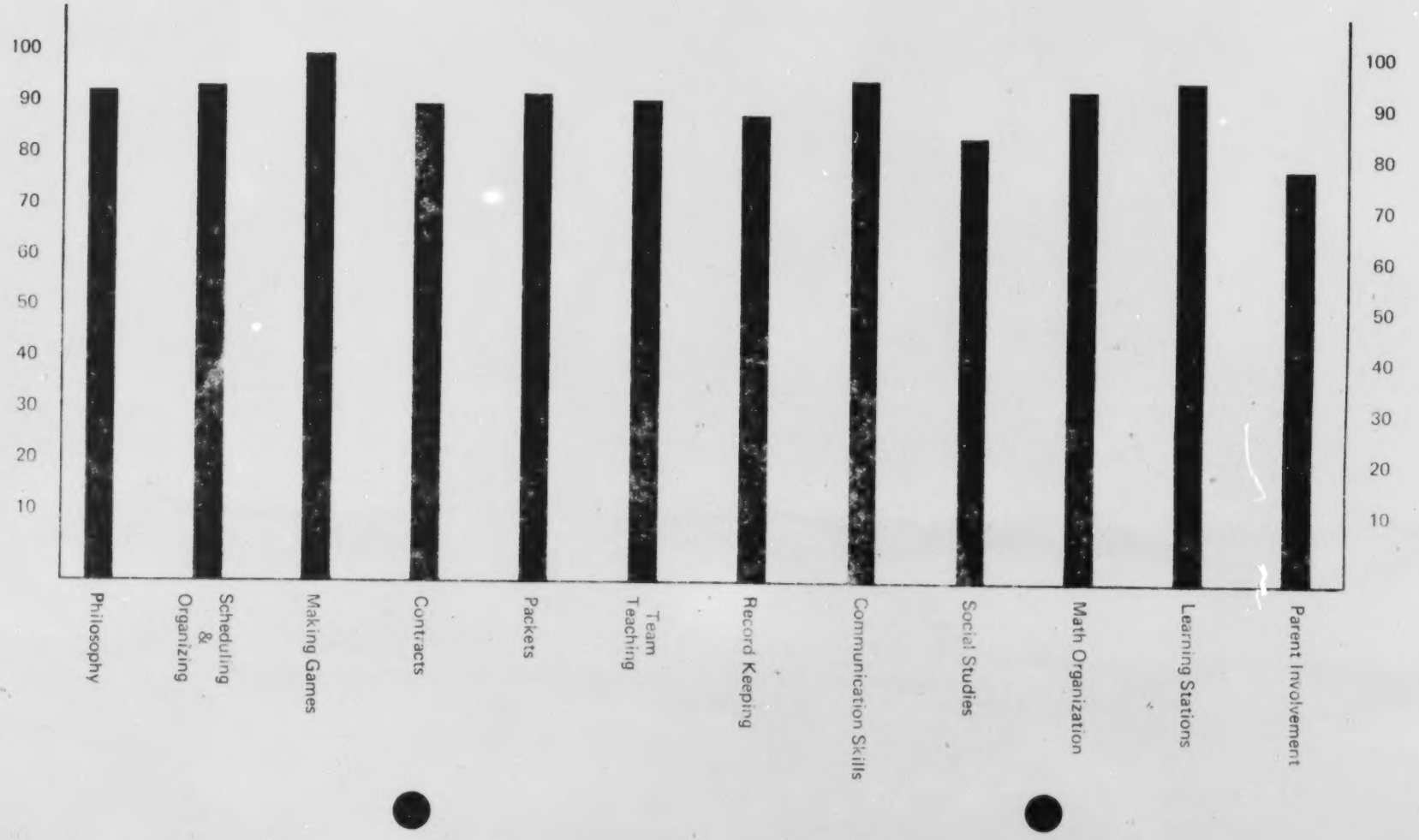
NUMBER AND PERCENTAGE RESPONDING TO EFFECTIVENESS AND IMPORTANCE CATEGORIES IN NETWORK SCHOOLS

1975

CONCEPT	EFFECTIVENESS								IMPORTANCE					
	VERY EFFECTIVE		EFFECTIVE		LITTLE EFFECT		NO EFFECT		SHOULD BE INCLUDED		SHOULD BE OPTIONAL		SHOULD BE EXCLUDED	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Philosophy	72	13.0	85	50.1	9	5.4	1	.5	106	88.3	14	11.7	0	0
Scheduling and Organizing	75	45.5	79	47.9	10	6.0	1	.6	108	90.8	10	8.4	1	.8
Making Games	118	70.2	48	28.6	2	1.2	0	0	103	90.4	11	9.6	0	0
Contracts	57	35.6	88	55.0	14	8.8	1	.6	105	87.5	15	12.5	0	0
Packets	87	51.5	70	41.4	10	5.9	2	1.2	89	85.6	14	13.5	1	.9
Team Teaching	71	44.9	73	46.2	11	7.0	3	1.9	94	81.0	22	19.0	0	0
Record Keeping	44	28.2	95	60.9	14	9.0	3	1.9	97	84.3	18	15.7	0	0
Communication Skills	69	44.5	78	50.3	7	4.5	1	.7	95	81.9	20	17.2	1	.9
Social Studies Organization	46	29.5	88	56.4	20	12.8	2	1.3	79	68.1	37	31.9	0	0
Math Organization	57	34.1	99	59.3	10	6.0	1	.6	91	79.8	23	20.2	0	0
Learning Stations	105	70.5	36	24.2	6	4.0	2	1.3	105	92.1	9	7.9	0	0
Parent Involvement	55	37.4	61	41.5	22	15.0	9	6.1	88	75.2	27	23.1	2	1.7

Figure 2

PERCENTAGE RESPONDING VERY EFFECTIVE AND EFFECTIVE TO EACH CONCEPT IN NETWORK SCHOOLS, 1975



NETWORK PROGRAM REGULAR SCHOOL YEAR

In the previous section, data gathered during the summer program of 1975 for five selected network schools was presented. In this section, data gathered during the regular school year (1975-1976) for the twelve participating network schools who had summer programs will be given.

Since the primary purpose of the summer network program was to change teacher behavior in terms of the teaching methods employed in individualized instruction classrooms, a teacher-use survey (see Appendix B) was developed through the Office of Educational Research and Evaluation. This survey was distributed to all the teachers who had been involved in the summer network program in 1975. Basically, teachers were asked to respond on a four point scale to the use they made of various individualizing methods of instruction during the previous school year, 1974-1975, and in the current school year, 1975-1976. In Table II are the results of their responses to the following areas:

Learning Contracts
Learning Packets
Learning Stations
Skill Sequences
Diagnostic Grouping
Teacher-made Games
Team Teaching
Parent Help

In order to obtain a comparative picture of the 2-year data from 1974 to 1976, a figure (see Figure 3) was prepared which presented the combined percentage of the "very frequent" and "frequent" responses. As Figure 3 shows, the teachers' usage of all methods of individualizing instruction increased in 1975-1976 when compared to the 1974-1975 data. The most dramatic increases occurred in the areas of Communication Skills and Mathematics. In addition, within the areas of Communication Skills and Math, the highest usage occurred for the concepts of Learning Stations, Skill Sequences, Diagnostic Grouping, and Teacher-made Games. Although showing a gain in all concepts of individualizing instruction, the Social Studies

TABLE II

NUMBER AND % OF NETWORK TEACHERS RESPONDING "VERY FREQUENT", "FREQUENT" AND "NEVER" TO TEACHER-USE SURVEY

	Very Freq. & Freq.				Never			
	1974-75		1975-76		1974-75		1975-76	
	N	%	N	%	N	%	N	%
I. Use of Learning Contracts in:								
A. Communication Skills	11	8.8	39	31.2	72	57.6	38	30.4
B. Mathematics	6	4.8	25	20.5	94	76.4	42	34.4
C. Social Studies	5	4.3	19	16.8	90	78.3	65	57.5
II. Use of Learning Packets in:								
A. Communication Skills	8	6.4	54	42.8	67	53.6	21	16.7
B. Mathematics	9	7.1	52	41.6	70	55.6	23	18.4
C. Social Studies	11	9.5	28	24.3	65	56.0	38	33.1
III. Use of Learning Stations in:								
A. Communication Skills	38	30.9	92	74.8	29	23.6	9	7.3
B. Mathematics	33	27.5	76	64.4	39	32.5	12	10.2
C. Social Studies	18	14.6	47	42.0	66	53.2	24	21.4
IV. Use of Skill Sequences in:								
A. Communication Skills	44	36.0	79	65.3	50	41.0	10	8.3
B. Mathematics	48	40.3	90	75.6	37	31.1	7	5.9
C. Social Studies	18	15.9	40	35.7	62	54.9	35	31.3

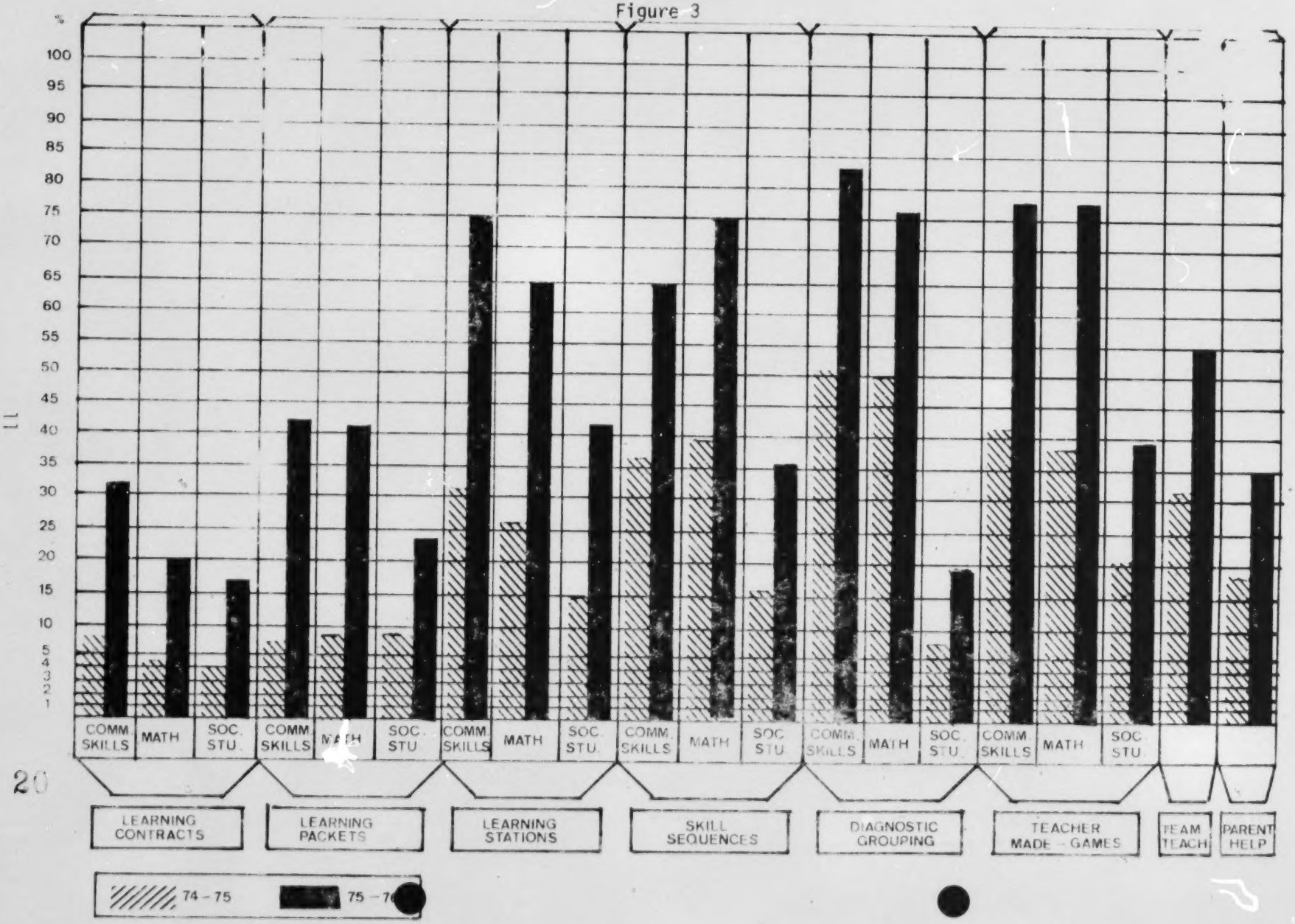
TABLE II

NUMBER AND % OF NETWORK TEACHERS RESPONDING "VERY FREQUENT", "FREQUENT" AND "NEVER" TO TEACHER-USE SURVEY

	Very Freq. & Freq.				Never			
	1974-75		1975-76		1974-75		1975-76	
	N	%	N	%	N	%	N	%
V. Use of Diagnostic Grouping in:								
A. Communication Skills	60	50.9	92	78.0	28	23.7	9	7.6
B. Mathematics	58	50.0	88	76.5	26	22.4	7	6.1
C. Social Studies	10	8.9	23	20.3	75	67.0	53	47.0
VI. Use of Teacher-made Games in:								
A. Communication Skills	51	41.8	96	78.7	22	18.0	4	3.3
B. Mathematics	45	37.5	93	78.8	19	15.8	4	3.4
C. Social Studies	25	22.0	46	40.7	52	45.6	30	26.6
VII. Use of Team Teaching	42	33.6	68	54.9	52	41.6	24	19.3
VIII. Use of Parent Help	19	17.8	37	34.9	39	36.4	24	22.6

NETWORK USAGE COMPARISON

Figure 3



component did not bring about as great an increase in percentage as the areas of Math and Communication Skills. Thus, the teachers perceived themselves as having transferred the concept of individualizing instruction from their network summer program into actual practice in the regular school year.

As a further attempt to examine the effect of the summer network program, an indepth teacher interview was conducted with twenty-four randomly selected network teachers. Two teachers from each of the twelve network school districts were chosen to be interviewed in the middle of the school year by a staff member from the Educational Developement Center of Millersville State College. All twenty-four teachers had participated in their respective network summer individualized instruction workshops. The twenty-four teachers were asked to respond to questions regarding the effectiveness of the network program, and responses were subsequently recorded on the Teacher Interview form (see Appendix C). The compiled results from the teacher interview are presented in Table III. As Table III indicates, all teachers felt that the network program fulfilled their expectations in that the individual school districts supported them in applying the work shop techniques. Futhermore, the practicality of using learning stations, games, and contracts in the classroom was viewed by the majority of the teachers as direct outcomes of the summer program. In addition,the participants asked that Millersville State College continue to provide more of the same type of training with a greater emphasis on the area of Social Studies. This finding was consistent with the objective data gathered through the teacher-use survey which showed that Social Studies techniques had not been as well integrated into the classroom as the areas of communication skills and mathematics.

Thus, the results of the teacher-use survey and interview indicate that teachers perceived the summer program as having brought about change in the use that they make of the various methods of individualizing instruction. If teachers' judgement is considered a criterion of actual classroom change, then the effectiveness of the summer workshop in 1975 appears to have been transferred into the regular classroom 1976.

As a result of having spent two years in changing the behavior of classroom teachers, it seemed appropriate that attempts be made to examine the effects of such change upon the academic achievement and school-related attitudes of youngsters in the regular school year. In the next section

data gathered from a model network school districts will be presented. Such data was based on both cross-sectional and longitudinal achievement data and also cross-sectional attitudinal data.

TABLE III

NUMBER OF NETWORK TEACHER RESPONSES TO EACH QUESTION
OF TEACHER INTERVIEW FORM (N=24)

1. How did you get into the workshop?
   - 22 - Flyers, announcements at school.
   - 2 - Had to go.

2. When you signed up, what did you anticipate getting from the workshop?
   - 18 - Hands-on experience.
   - 5 - Sharing with others.
   - 24 - Ideas on individualized instruction.
   - 20 - Techniques of open education.

3. Were your anticipations filled? How?
   - 24 - Yes. The workshop did what it advertised to do.

4. What was particularly helpful in the workshop?
   - 20 - Work time to do things.
   - 15 - New ideas.
   - 10 - Sharing with others.
   - 5 - Having access to consultants.
   - 24 - Having access to materials to make things, and time.

5. What needs to be improved?
   - 6 - Would like more time to work on projects and exchange ideas.
   - 1 - More theory.

6. How has the workshop affected your practice of education?
   a. Your daily routine: Answers varied according to experience.
   b. Materials: Using more games and stations; more teacher-made material.
   c. Organization: Same as "a".
   d. Techniques of Instruction: More use of games, stations, contracts.
   e. Methods of Evaluation: Using skill sequences a bit more. Self checking used more.

7. How does your school as an institution facilitate or support your application of workshop techniques? Consider the climate, policies, rules, regulations and expectations regarding teaching responsibilities.
   - 24 - Almost all said their schools supported them.

8. How does your school hamper you?
   4 - Not enough money for materials.
   20 - Does not hamper.

9. What are your needs now with regard to further training or assistance?
   2 - More primary ideas.
   18 - Using modern techniques in social studies science
   10 - More of the same thing (hands-on)

10. Who do you see as having the potential to meet your needs?
   Very few responses here.
   6 - Mr. Ira Light, Millersville State College
   1 - Mr. Robert Stambaugh, Hershey (social studies)

11. What suggestions do you have for future programs of this nature?
   16 - More of the same.
   2 - Teachers in our district should share ideas once a year.
   2 - Same things but specific subject areas highlighted each day.
   5 - Diagnostic Prescriptive Teaching.
   10 - Social Studies.

CHILDREN'S ACHIEVEMENT AND ATTITUDE DATA

In the previous section, teacher opinion data gathered during the regular school year, 1975-1976, for the twelve participating network schools was presented. This data dealt with the usage teachers were making during the school year of the techniques of individualizing instruction. With the current emphasis on educational accountability, it seemed appropriate that data be gathered beyond the teacher opinion dimension to examine the effects the program has had upon the academic performance and attitude of youngsters who were in classrooms of teachers who had been trained in the network program. In this section children's achievement and attitude data from one of the network school district programs will be presented.

PROCEDURE

SAMPLE:

The school district involved in the present analysis is located in a rural area in Western Pennsylvania, outside an industrial city with a population of approximately 60,000. The income level of the families in the district varies widely with middle to upper middle class families forming one segment, and the other end of the income spectrum consisting of rural poverty families. The district itself has been educationally involved in trying to bring about individualized programs for the past several years, and has achieved varying degrees of such individualization in the district schools. The present analysis will center on three of these schools, one of which the school district feels represents a model of individualized instruction. The other two include a school which has similar population youngsters to the model school, but has not progressed totally in the area of individualized instruction, and a school representing high I.Q. children from middle to upper middle class income parents.

TESTING PROCEDURE:

In the spring of 1974, children who were in the third grade in the school district under analysis were given the Comprehensive Test of Basic

Skills, This standardized instrument yielded scores on the factors of Reading, Language, Mathematics, a Total of these three area, Reference, Science, and Social Studies. In the spring of 1976 a similar test was again given to all students in both the third and fifth grades in the school district. The majority of the fifth grade students had been tested as third graders in the spring of 1974.

In addition to the achievement testing, youngsters in the school district were also given a third grade attitudinal measure (Faces Questionnaire, Anttonen, 1974). This attitudinal instrument yielded scores on three factors: School Climate, Independent Study, and School Work, along with a combined total score across the three factors. For a sample of the instrument itself and a description of the scoring of the instrument, see Appendix D. Student attitudes in the fifth grade were measured by a Semantic Differential designed by Anttonen, 1974. This Semantic Differential technique tapped feelings of students about Reading, Me, Social Studies, School, Arithmetic, and Science. A copy of this attitude instrument and scoring procedure appears in Appendix E.

ANALYSIS OF DATA:

Since the samples from the three schools are not either truly random or comparable, the data analysis will be presented in descriptive terms only, without statistical tests of inference. The data will be divided into three major sections: (1) Cross-sectional analysis of the standardized achievement data, (2) longitudinal analysis of the achievement data, and (3) a final section dealing with the two attitude measures. In all comparisons the three schools outlined above will be used so that a model individualized instruction school will be compared with a similar student population school, and a school with a higher intelligence, more affluent student population.

The statistics presented will include means and standard deviations for both the achievement and attitude measures. In addition, mean and standard deviations will also be calculated for the gains which ahve been made for those youngsters who were tested on the achievement measure in the springs of 1974 and 1976. The achievement means will use as their unit of analysis grade equivalents obtained from the raw scores on the various subject tests and the attitude measures will use as their unit of analysis the simple raw scores obtained for the various factors on the two instruments. In order to

simplify the presentation of the results, the model individualized instruction school will be designated in the report simply as the Model School, the similar student population school will be labeled the Parallel School, and the higher intelligence, affluent student population will be referred to as the Atypical School.

CROSS-SECTIONAL ACHIEVEMENT DATA

As outlined previously, achievement data was gathered in the spring of 1976 for youngsters in Grades 3 and 5, via the Comprehensive Test of Basic Skills. Table IV presents the means and standard deviations in grade equivalent units for Grade 3 for the various subtests of this instrument. The analysis is separated into the three schools: The Model school, the Parallel school, and the Atypical school. As can be seen from Table IV, youngsters in the Atypical school achieved higher grade equivalent means on all measures of the achievement battery when compared to the other two schools.

When the Model school is compared to the Parallel school, 6 out of 7 achievement subtests have higher mean grade equivalents favoring the Model school. As can be further seen form Table IV, mean grade equivalent differences of greater than .50 occurred for the areas of Language and Reference, with the greatest differences (.83) occurring in the area of Reference. Differences of .40 and .50 mean grade equivalents favoring the Model school occurred for the subtests of Social Studies, Mathematics and Total. The other two areas, Science and Reading, were within .20 or less mean grade equivalent units for the two schools.

Table V presents the means and standard deviations in grade equivalent units for Grade 5 in the three comparative schools. Although the differences were not as marked as Grade 3, youngsters in the Atypical school achieved higher grade equivalent means on 6 out of the 7 subtests on the Comprehensive Test of Basic Skills. However, for the subtest of Reference, the highest mean grade equivalent occurred in the Model school.

In the comparison of the Model school iwth the Parallel school, 6 out of 7 of the achievement subtests had higher mean grade equivalents in the Model school. A further examination of Table V reveals that the greatest

difference (1.11) occurred in the area of Reference. Differences of .35 to .50 mean grade equivalents favoring the Model school occurred in the subtests of Social Studies, Science, and Language. The other three areas, Reading, Total, and Mathematics, were within .25 or less mean grade equivalent units for the two schools.

In addition to the actual grade equivalent scores, the Comprehensive Test of Basic Skills also provided for Grade 3 only, a predicted grade equivalent achievement score based on an intelligence measure, for each of the subtests. By taking the difference between actual and anticipated achievement, a discrepancy score was obtained with a positive score indicating achievement above prediction, and a negative score indicating achievement below prediction.

Table VI presents the means and standard deviations for these discrepancy scores on 1976 third grade data for the three comparative schools. As Table VI shows, the Atypical school had the highest mean discrepancy scores for the subtests of Reading, Science, and Social Studies. The Model school had the highest mean discrepancy scores for the subtests of Language, Reference, and Total. Negative mean discrepancy scores were obtained for all three schools in the area of Mathematics.

In comparing the Model school with the Parallel school, it is interesting to note that higher mean discrepancy scores favoring the Model school occurred in 6 out of 7 subtests, with the biggest differences occurring for the subtests of Reference (1.10), Language (.64), and Social Studies (.59).

In addition to the data obtained in 1976 for Grade 3 youngsters, similar discrepancy scores were available for a sample of students who were in the third grade in each of the three schools in the spring of 1974. Table VII gives the means and standard deviations for each school for the 1974 discrepancy data.

For presentation of either the gain or loss for the mean discrepancy from 1974 to 1976 for each of the schools, a figure was prepared showing the difference between the mean grad equivalent discrepancy scores for the two year period. (See Tables VI, VII and Figure 4). Gains were presented by bar graphs above the zero point in the figure, and losses were represented by bar graphs below the zero point in the figure. As Tables VI, VII, and Figure 4 show, the largest gains in the discrepancy scores occurred in the Model school for the areas of Language (.18 to .75), Reference (.65 to 1.17), and Social

Studies (.08 to .60). The next largest gain occurred for the Atypical school in the area of Social Studies (.39 to .86). All other gains or losses for the three comparative schools were .35 or less.

Thus, the results of the cross-sectional achievement data basically show that the Atypical school has higher overall achievement in terms of mean grade equivalent scores on the Comprehensive Test of Basic Skills for both Grade 3 and Grade 5. However, the comparison between the Model school and the Parallel school show consistently higher achivement scores for the Model school. Furthermore, when the factor of I.Q. is taken into account, the Model school shows the greatest gain for 5 out of the 7 achievement subtests in the period from 1974 to 1976. In addition, the areas which consistently stand out in favor of the Model school are Reference, Social Studies, and Language. This is not surprising, since the goal of individualizing instruction is to have youngsters seek knowledge and information independently. Also, the emphasis of the individualized program in the Model school has been predominantly in the curriculum areas of Language Arts and Social Studies.

In the next section, data based on the longitudinal analysis of the Comprehensive Test of Basic Skills will be presented.

LONGITUDINAL ACHIEVEMENT DATA

As outlined in the section on Procedures, a sample of youngsters in each of the three comparative schools had been tested both in the spring of 1974 and 1976 with the Comprehensive Test of Basic Skills. Table VIII presents the grade equivalent means and standard deviations for both Grade 3 and Grade 5 longitudinal data on each of the seven subtests. In addition, the table also gives the mean and standard deviation for the gain scores calculated from the differences between the grade equivalent scores for these two testing times. The table also presents the mean and standard deviation for the intelligence test given when the youngsters were in Grade 3 in 1974.

As can be seen from Table VIII the largest mean grade equivalent gain for the areas of Reading, Mathematics, Total, and Social Studies occurred in the Atypical school. However, for the area of Reference, the greatest mean gain (3.28) was in the Model school. The differences between the three schools were all within approximately .30 mean grade equivalent units for the areas of Language and Science.

In comparing the Model school with the Parallel school, five out of the seven subtests (Reading, Total, Reference, Science, and Social Studies) had higher mean grade equivalent scores in the Model school. The biggest mean difference occurred in the areas of Reference (.94) and Reading (.53). For the other three subtests, Mathematics, Science, and Social Studies, differences of .30 or less mean grade equivalents were found between the two schools. The two subtests which favored the Parallel school were Language and Mathematics, although differences of .30 or less mean grade equivalent units occurred in both cases.

Thus, the results of the longitudinal achievement data analysis show that the Atypical school brings about greater overall achievement gains on the majority of subtests of the Comprehensive Test of Basic Skills. However, it is interesting to note that in an area of individualization, Reference, the greatest gain was made in the Model school. This result is consistent with the goal of the program, which seeks to have youngsters gain information and knowledge in a self-seeking manner.

In the next section, data based on the children's attitudes for the

comparison of the three schools will be presented.

ATTITUDE DATA

As outlined in the section of Procedures, attitudinal data was gathered for youngsters who were in Grades 3 and 5 for the three comparative schools in the spring of 1976. Children who were in Grade 3 were given the Faces Test. (See Appendix D) yielding scores on three factors: School Climate, Independent Study, and School Work. In addition, a total score was obtained by adding across all the items which were included in this scale. Table IX presents the means and standard deviations for the three comparative schools. As can be seen for Table IX children in the Model school had a higher mean attitude score for the subtest of Independent Study, School Work, and also for the Total. For the factor of School Climate, the Parallel school had the highest mean attitude.

For youngsters in Grade 5, a semantic differential instrument was utilized. (See Appendix E). This technique tapped six affective dimensions: Reading, Me, Social Studies, School, Mathematics, and Science. Table X presents the means and standard deviations for the three comparative schools for these six concepts. As Table X shows, higher mean attitude scores were obtained for the Model school in 5 out of the 6 dimensions: Reading, Me, Social Studies, School, and Mathematics. For the concept of Science, the highest mean occurred in the Atypical school.

If one views the combined results of the third and fifth grades, it is interesting to note that for eight of the ten measures a higher mean attitude score was found in the Model school. This result is consistent with one of the objectives of an individualized program, namely that youngsters who are given more choice and freedom in seeking knowledge independently should have "better" attitudes toward school and school work when compared to youngsters who are involved in more "traditional" based programs.

CONCLUSION

The results of the comparison of the three schools involved in the present analysis present some interesting findings. Obviously, the findings support

the view that intelligence is still closely related to the achievement of youngsters. This is revealed in the consistently higher mean grade equivalent scores for the school with a student population which can be characterized as of upper intelligence, and coming from homes which are in the middle to upper socio-economic level.

However, the data also shows that youngsters who have been exposed to an individualized curriculum can achieve greater growth and perform at a higher level in certain specific areas of skill development. Such youngsters achieved and gained in the skill of Reference which tapped their ability to work independently. In addition, the verbal areas of Language and Social Studies also showed a high level of achievement. For the areas of Mathematics, Reading, and Science, youngsters who were exposed to such an individualized approach did not tend to do less well than youngsters who were exposed to a more "traditionally" based curriculum.

The data also tended to support the view that children in an individualized program have better attitudes toward school and its subjects. Again, this is not surprising, since one of the major goals of an individualized instruciton is to make learning more enjoyable and hence bring about better school and school related affect.

Obviously, the school district involved in the present analysis has made a commitment to the whole area of individualizing instruction. All the schools in the district are presently seeking to develop this method which is already established in the Model school. The school district itself is not interested in making claims that its approach is bringing about great gains in achievement, and establishing entirely new modes of instruction. Rather, they feel that they are attempting instructional methods which seem to bring about better results in some areas, and this report tends to support their claim. Hopefully, other school districts will want to examine the techniques and tactics which have brought about the success achieved by the particular school system involved in this section of the present report.

In addition to the effect the Network Program has had upon the schools involved, the program has also impacted the scholarly endeavors of Millersville State College. The next section will highlight this selected outcome.

TABLE IV

GRADE 3 GRADE EQUIVALENT MEANS AND STANDARD DEVIATIONS
(FOR 1976 COMPREHENSIVE TEST OF BASIC SKILLS)
FOR THREE COMPARATIVE SCHOOLS

Subtest	Model School (N=25)		Parallel School (N=32)		Atypical School (N=50)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	4.2[illegible]	1.91	4.08	1.99	5.24	2.04
Language	4.84	2.28	4.33	2.38	5.21	2.14
Mathematics	4.06	1.41	3.59	1.34	4.44	1.32
Total	4.23	1.68	3.81	1.75	4.79	1.61
Reference	4.96	2.49	4.13	2.03	5.56	2.23
Science	4.37	1.99	4.39	2.25	5.78	2.21
Social Studies	4.50	1.93	4.01	2.11	5.63	2.48

TABLE V

GRADE 5 GRADE EQUIVALENT MEANS AND STANDARD DEVIATIONS
(FOR 1976 COMPREHENSIVE TEST OF BASIC SKILLS)
FOR THREE COMPARATIVE SCHOOLS

Subtest	Model School (N=57)		Parallel School (N=64)		Atypical School (N=58)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	6.23	2.22	6.00	2.01	6.62	2.69
Language	6.37	2.59	6.01	2.24	6.40	2.51
Mathematics	6.44	1.71	6.46	2.36	6.61	2.12
Total	6.27	1.89	6.06	1.91	6.42	2.23
Reference	8.18	2.82	7.06	2.81	6.82	2.96
Science	6.95	2.71	6.57	2.39	6.99	3.04
Social Studies	6.60	2.64	6.11	2.58	6.70	3.23

TABLE VI

GRADE 3 DISCREPANCY SCORE MEANS AND STANDARD DEVIATIONS
(FOR 1976 COMPREHENSIVE TEST OF BASIC SKILLS)
FOR THREE COMPARATIVE SCHOOLS

Subtest	Model School (N=20)		Parallel School (N=28)		Atypical School (N=47)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	.25	.99	.18	.88	.41	1.24
Language	.75	1.66	.11	1.05	-.05	1.42
Mathematics	-.09	.86	-.35	.81	-.09	.89
Total	.23	.76	-.13	.86	.06	.99
Reference	1.17	1.91	.07	1.12	.95	1.64
Science	.29	1.00	.31	1.36	.90	1.45
Social Studies	.60	1.13	.01	1.15	.86	1.55

TABLE VII

GRADE 3 DISCREPANCY SCORE MEANS AND STANDARD DEVIATIONS
(FOR 1974 COMPREHENSIVE TEST OF BASIC SKILLS)
FOR THREE COMPARATIVE SCHOOLS

Subtest	Model School (N=24) Mean	Model School (N=24) Std. Dev.	Parallel School (N=21) Mean	Parallel School (N=21) Std. Dev.	Atypical School (N=29) Mean	Atypical School (N=29) Std. Dev.
Reading	.08	1.00	.06	.59	.37	1.06
Language	.18	1.15	.19	.96	.13	1.43
Mathematics	.23	.85	-.10	.62	.04	.87
Total	.20	.80	.01	.51	.19	.87
Reference	.65	1.43	.24	1.20	.68	1.51
Science	.16	1.11	.26	1.05	.72	1.73
Social Studies	.08	1.33	-.25	.67	.39	1.44

FIGURE 4

DIFFERENCES IN DISCREPANCY SCORES FOR 1974 AND 1976 ACHIEVEMENT SUBTESTS FOR THREE COMPARATIVE SCHOOLS

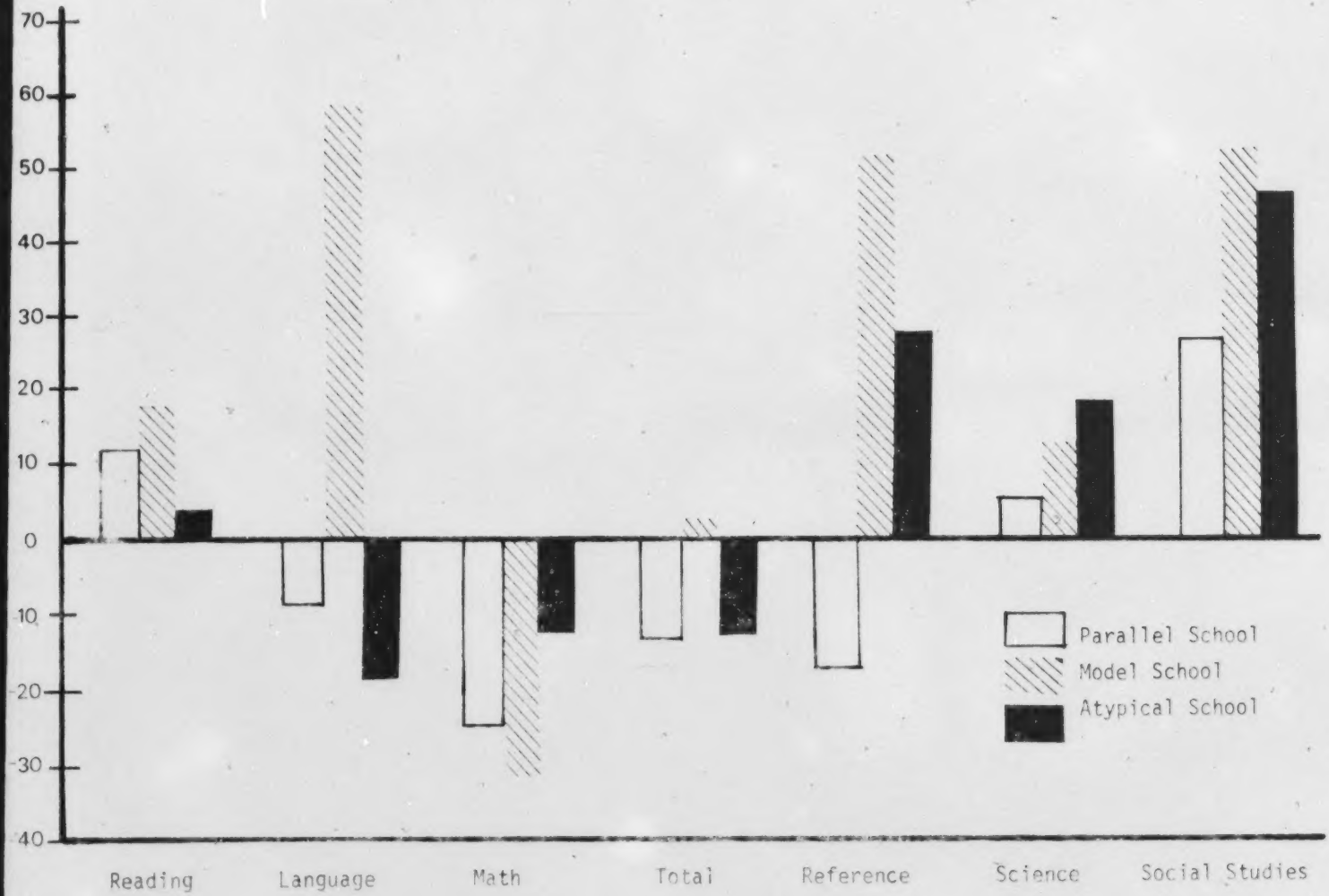


TABLE VIII

GRADE 3 AND 5 GRADE EQUIVALENT AND I.Q. MEANS AND STANDARD DEVIATIONS FOR 1974-1976 COMPREHENSIVE TEST OF BASIC SKILLS FOR THREE COMPARATIVE SCHOOLS

	Model School (N=24)		Parallel School (N=20)		Atypical School (N=28)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
I.Q. 3rd Grade	101.08	13.51	97.75	11.96	114.43	15.08
Reading						
3rd Grade	3.86	1.76	3.60	1.28	5.49	1.89
5th Grade	6.22	1.98	5.43	1.94	8.19	2.70
Gain	2.36	1.25	1.83	1.01	2.70	1.57
Language						
3rd Grade	4.14	2.02	3.85	1.63	5.89	2.50
5th Grade	5.96	2.40	5.85	2.50	7.94	3.00
Gain	1.82	1.30	2.00	1.63	2.05	1.62
Mathematics						
3rd Grade	4.37	1.47	3.80	1.15	4.84	1.27
5th Grade	6.39	1.71	6.07	2.39	7.50	2.20
Gain	2.02	.98	2.27	1.82	2.66	1.41
Total						
3rd Grade	4.08	1.57	3.68	1.18	5.28	1.75
5th Grade	6.15	1.78	5.68	1.98	7.80	2.51
Gain	2.07	.85	2.00	1.20	2.52	1.21
Reference						
3rd Grade	4.52	1.99	3.78	1.92	5.72	2.40
5th Grade	7.80	2.74	6.12	2.65	8.64	2.93
Gain	3.29	2.07	2.34	2.36	2.92	1.95
Science						
3rd Grade	4.17	1.84	3.94	1.89	6.05	2.12
5th Grade	6.74	2.51	6.12	2.22	8.63	2.94
Gain	2.57	1.94	2.18	1.50	2.58	1.63
Social Studies						
3rd Grade	3.80	1.75	3.30	1.32	5.48	2.84
5th Grade	6.42	2.60	5.75	2.81	8.44	3.15
Gain	2.62	1.80	2.45	1.90	2.96	2.14

TABLE IX

GRADE 3 MEANS AND STANDARD DEVIATIONS FOR 1976 FACES ATTITUDE TEST FOR THREE COMPARATIVE SCHOOLS

Attitude Variable	Model School (N=20) Mean	Std. Dev.	Parallel School (N=28) Mean	Std. Dev.	Atypical School (N=47) Mean	Std. Dev.
School Climate	19.90	2.61	20.50	2.94	19.32	2.05
Independent Study	15.10	2.15	14.14	2.94	14.51	1.98
School Work	11.60	3.15	10.79	3.32	9.60	2.78
Total	46.60	6.39	45.43	6.91	43.19	4.74

TABLE X

GRADE 5 MEANS AND STANDARD DEVIATIONS
FOR 1976 SEMANTIC DIFFERENTIAL ATTITUDE TEST
FOR THREE COMPARATIVE SCHOOLS

Subtest	Model School (N=57) Mean	Std. Dev.	Parallel School (N=54) Mean	Std. Dev.	Atypical School (N=58) Mean	Std. Dev.
Reading	22.39	2.73	22.19	2.78	22.09	2.90
Me	22.25	2.97	22.17	3.02	21.64	3.17
Social Studies	22.47	2.63	21.92	3.01	21.24	4.15
School	22.82	3.15	21.58	2.80	21.36	3.68
Mathematics	23.93	3.24	22.05	3.37	22.50	4.19
Science	22.65	3.35	22.27	2.89	23.33	3.45

GENERAL IMPACT OF PROGRAM UPON COLLEGE

In the previous three sections, data gathered from the teachers and children of the network program has been presented. In addition to the results which have been outlined in these sections, the network program has also had an impact upon the Teacher Education program of Millersville State College. All the teachers who have been involved in the summer programs have registered either for graduate credit or inservice credit in a set of workshops known as the 530 Series. In Table XI is a listing of the number of individuals who have registered during the four-year period of the summer network workshops. These individuals registered for either Education 537 - Selected Teaching Strategies; Ed 538 - Diagnostic and Prescriptive Teaching; Ed 539 - Individualizing Instruction through the Identification of Learning Styles; or Ed 530 - Educating the Gifted and Mentally Talented. According to statewide procedures, each of these workshops has a developed course description with objectives, activities and evaluation procedures. Basically, teachers who were involved for the first time with the network program took Education 537. Teachers who were in their second and third workshops took Education 538 and 539; and teachers who were involved in their fourth summer took Education 530. However, it should be noted because of the current interest in the gifted and talented, some teachers took Education 530 during their first network experience.

As a result of the identification of new areas of instruction in elementary eudcation, as outlined in the titles of the 530 workshops, the Elementary Education Department at Millersville State College developed an undergraduate course in the area of open education. This course was an outgrowth of the earlier network program and the workshop entitled Selected Teaching Strategies. As the later workshops (538, 539, and 530) demonstrate the need for instruction in these areas, it is hoped that the Elementary Education Department curricula can be modified to include these new topics.

In addition to serving as a catalyst for change in the elementary education program, the network endeavor has also provided data for scholarly activity. A professor in the Elementary Education Department has completed his doctoral thesis utilizing data gathered from the model network program

highlighted in Section III. This thesis was completed at Temple University in the spring of 1978 and is entitled "Effects of an Open Versus Traditional Instructional Program". Also underway at Temple University is another doctoral thesis which is being written by a school administrator in the Lancaster Area. This thesis has as its proposed title, "The Relationship Between Selected Characteristics of School Districts and the Installation of an Educational Innovation". Data gathered in this study, it is hoped, will provide more information about the actual relationships between the degree of change and selected demographic variables. Hopefully, the data gathered in this study will appear in a subsequent report to be completed in the year 1978-1979.

Thus, the network program has had an impact upon the college. Not only has the college gained monies for graduate credit, but also educational change has occurred in the Elementary Department Undergraduate Program. Also, because of the trust involved in the network approach, data has been freely available for scholarly activity. This empirical aspect of the network program offers even more potential for future systematic investigation.

As can be ascertained from the present report, the network program has generated change, not only in selected school districts in Pennsylvania, but also in Millersville State College. In this day of dwindling college enrollments and "drying up" of graduate educational clientele, perhaps the network model offers one possible approach for colleges and universities in their instruction of teacher-educators. Such an approach demands that the colleges and universities do not continue to exist solely within the confines of their academic campuses. Rather, an attempt must be made to reach the customer and deliver the products in the actual physical surroundings of the buyer. No longer can the mountain of educational knowledge exist isolated from the community it serves; rather the mountain must move out to its constituents.

TABLE XI

NUMBER OF TEACHERS INVOLVED IN NETWORK PROGRAM DURING PERIOD 1975 TO 1978

	1975	1976	1977	1978
Number	276	237	239	235

APPENDIX A

SUMMER HAPPENING EVALUATION FORM

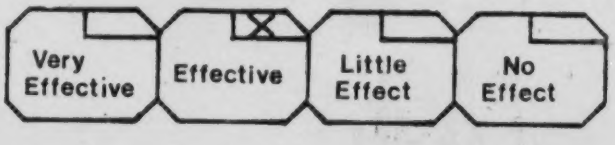
Summer Happening Evaluation

Summer, 1976

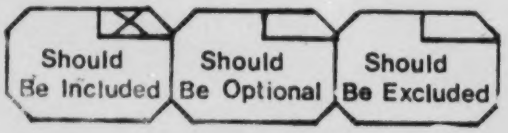
In order to provide some information for the development and improvement of future Summer Happening programs, we wonder if you might take the time to complete the following form. In addition, space is provided at the end of the form for written comments. All answers are strictly confidential, and we want to encourage you to respond openly.

To complete the form, just check the appropriate small box which expresses your feelings on the particular subject or concept.

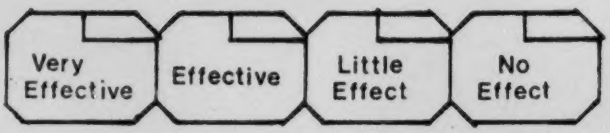
The first four categories on the left of the form deal with the effectiveness of the presentation for the particular subject or concept. For example, if you feel that the presentation on contracts was an effective one, then check the small box which is labelled "Effective," i.e.

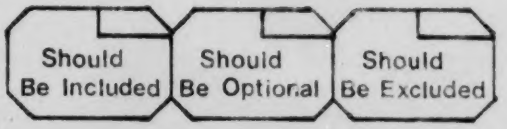


The next three categories deal with importance. For example, if you feel that contracts is an important activity and should be included in future Summer Happening programs, then check the small box that indicates "Should be included," i.e.

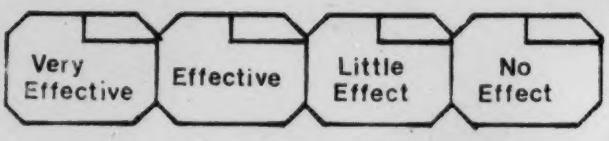


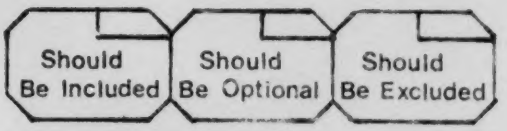
PHILOSOPHY OF OPEN EDUCATION PRESENTATION



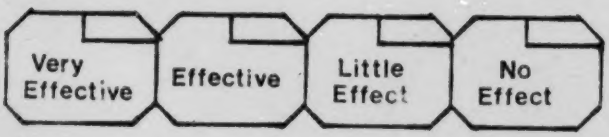


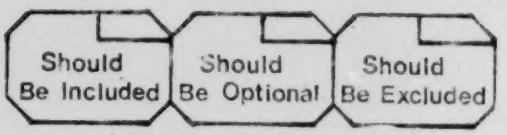
SCHEDULING AND ORGANIZING



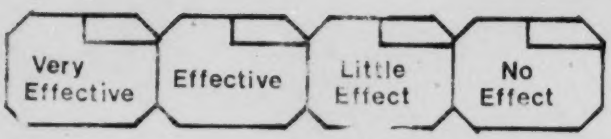


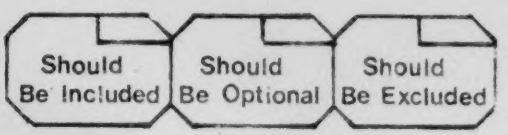
MAKING GAMES





CONTRACTS





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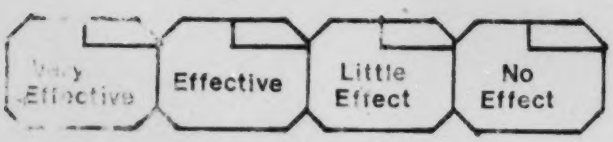

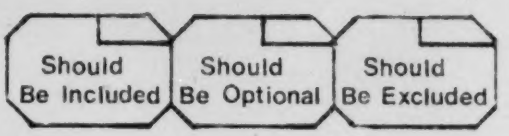

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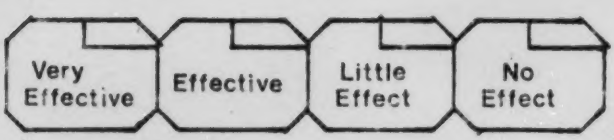

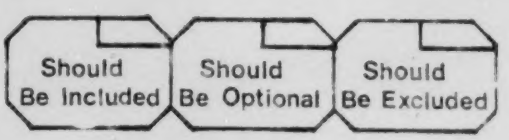

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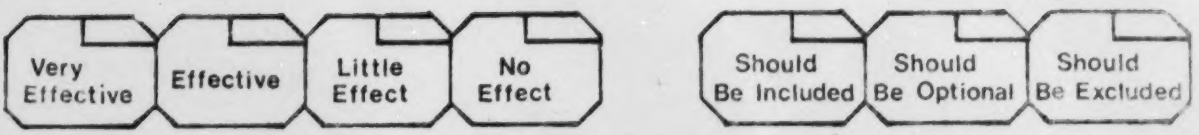

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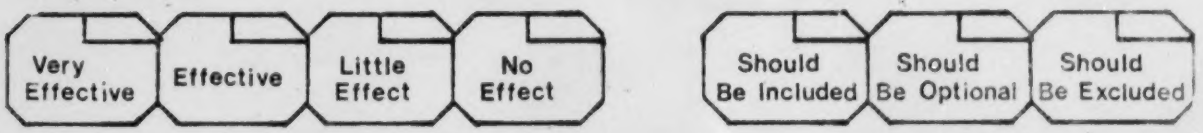

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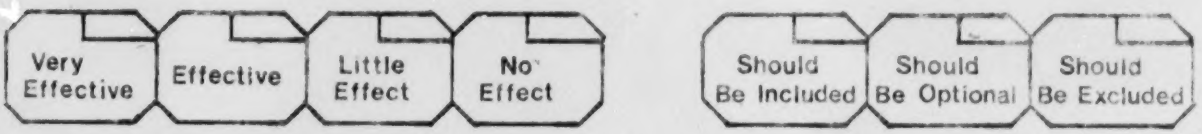

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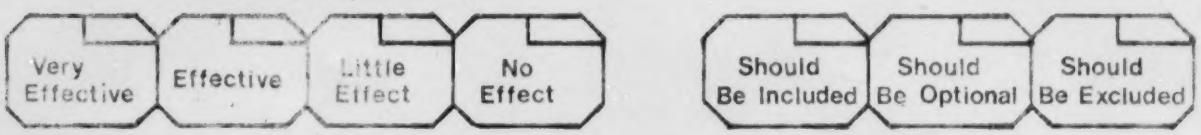
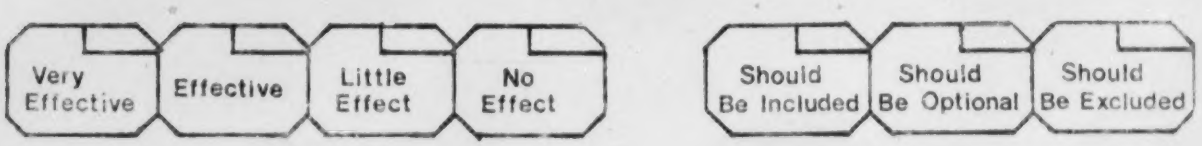


LEARNING STATIONS

PARENT INVOLVEMENT



PLEASE RESPOND TO THE FOLLOWING FOUR ITEMS:

1. What part of the program was most valuable to you?

2. What part of the program was least valuable to you?

3. What areas, topics, or concepts would you like to have included in future programs?

4. In the space below, please make any comments or suggestions you feel would aid us in planning future programs.

APPENDIX B

TEACHER-USE SURVEY

TEACHER-USE SURVEY
MILLERSVILLE STATE COLLEGE

Directions:

The purpose of this survey is to determine what teaching strategies you utilized last year (before the workshop) and those that you are utilizing this year (after the workshop).

On this form, teaching methods are Roman numerals and subjects you might use the methods in are letters of the alphabet. Below each teaching method and/or subject are eight (8) boxes with adjectives which describe the use of a particular method. The four (4) boxes on the left refer to the use of a method during last school year (September 1974-June 1975). The four (4) boxes on the right refer to the use during this year (September 1975-Present).

In the example below, the teaching method is: I. Use of Learning Contracts In; the subject area is: A. Communication Skills. The answer below shows that last year (September 1974-June 1975) the respondent used this method occasionally, and that this year (September 1975-Present) she has used it frequently.

SAMPLE:

I. USE OF LEARNING CONTRACTS IN:

September 1974-June 1975				A. COMMUNICATION SKILLS	September 1975-Present			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

Please read each teaching method and/or subject area and check the adjective in each set of boxes which best describe your use of the method last year and this year.

Thank you for your assistance in this survey.

TEACHER-USE SURVEY

I. USE OF LEARNING CONTRACTS IN:

A. Communication Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

II. USE OF LEARNING PACKETS IN:

A. Communication Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

III. USE OF LEARNING STATIONS IN:

A. Communications Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

IV. USE OF SKILL SEQUENCES IN:

A. Communications Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

V. USE OF DIAGNOSTIC GROUPING IN:

A. Communication Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

VI. USE OF TEACHER-MADE GAMES IN:

A. Communication Skills

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

B. Mathematics

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

C. Social Studies

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently	Frequently	Occasionally	Never		Very Frequently	Frequently	Occasionally	Never

VII. USE OF TEAM TEACHING:

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently ☐	Frequently ☐	Occasionally ☐	Never ☐		Very Frequently ☐	Frequently ☐	Occasionally ☐	Never ☐

VIII. USE OF PARENT HELP:

September 1974 - June 1975					September 1975 - June 1976			
Very Frequently ☐	Frequently ☐	Occasionally ☐	Never ☐		Very Frequently ☐	Frequently ☐	Occasionally ☐	Never ☐

COMMENTS:

APPENDIX C

TEACHER INTERVIEW FORM

TEACHER INTERVIEW FORM

1. How did you get into the workshop?

2. When you signed up, what did you anticipate getting from the workshop?

3. Were your anticipations filled? How?

4. What was particularly helpful in the workshop?

5. What needs to be improved?

6. How has the workshop affected your practice of education?

   a. your daily routine

   b. materials

   c. organization

   d. techniques of instruction

   e. methods of evaluation

7. How does your school as an institution facilitate or support your application of workshop techniques? Consider the climate, policies, rules, regulations and expectations regarding teaching responsibilities.

8. How does your school hamper you?

9. What are your needs now with regard to further training or assistance?

10. Who do you see as having the potential to meet your needs?

11. What suggestions do you have for future programs of this nature?

Sketch of room:

Name:
Age Group:
Education:
Years of Professional Service:

APPENDIX D

FACES INVENTORY

FACES INVENTORY

Age _____ Name _____

Grade _____ School _____

Date _____

DIRECTIONS: Boys and girls, we are interested in how you feel about school and some of the things you do in school. Read each sentence below and on the following pages. Put an "X" on the face that shows how you feel. Please check only one face for each sentence and make sure you answer each sentence.

EXAMPLE:

This is how I feel when I go to the doctor.

1. This is how I feel when I come to school.

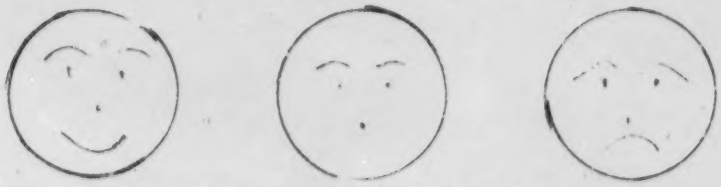
2. I feel like this when the teacher tells me to do something all by myself without any help.

3. This is how I would feel if I could go to school for the rest of my life.

4. I feel like this when someone does not follow the rules.

5. I feel like this when I work alone.

6. I feel like this when I have a lot of school work to do.



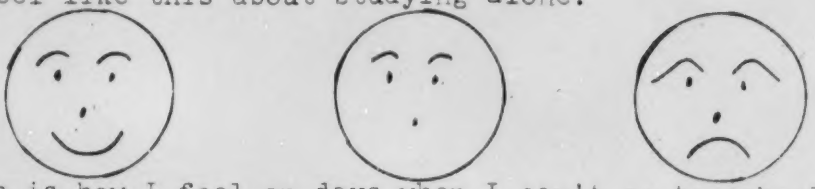
7. I feel like this about going to summer school.

8. I feel like this when I work on a project by myself.

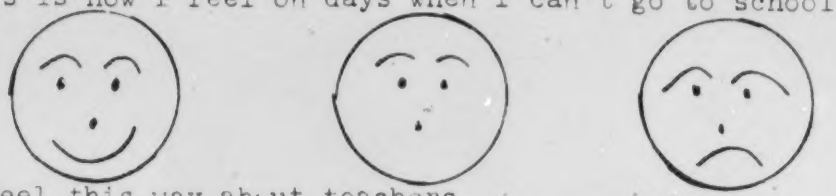
9. This is how I feel about going back to school after a vacation.

10. This is how I feel when I talk to my teachers.

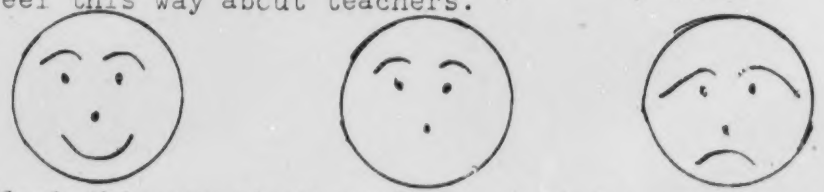
11. I feel like this about studying alone.



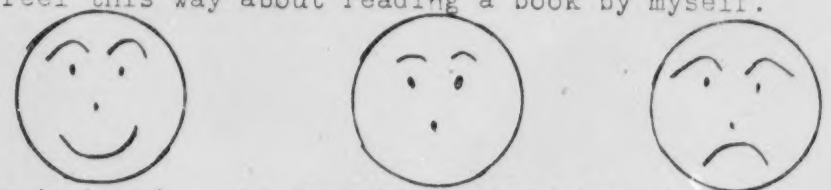
12. This is how I feel on days when I can't go to school.



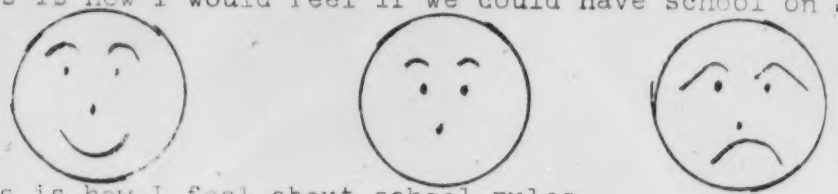
13. I feel this way about teachers.



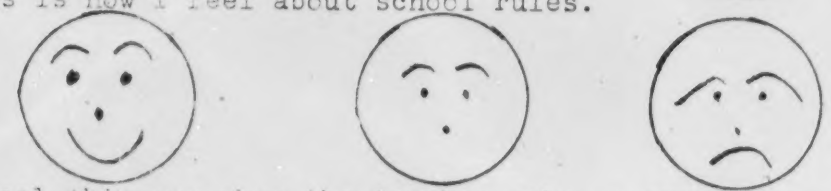
14. I feel this way about reading a book by myself.



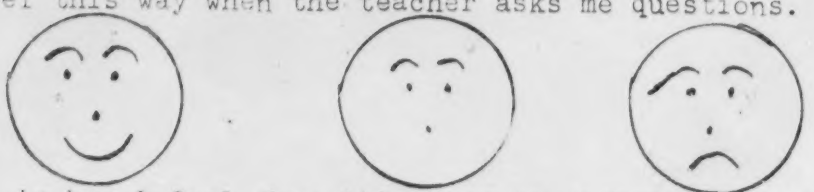
15. This is how I would feel if we could have school on Saturday, too.



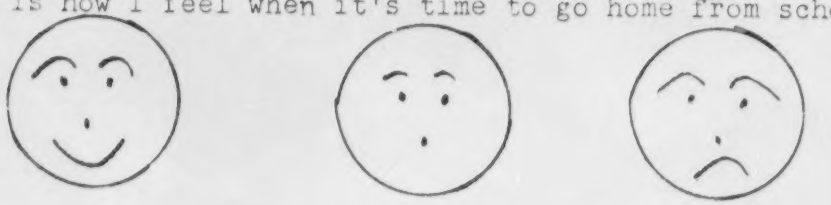
16. This is how I feel about school rules.



17. I feel this way when the teacher asks me questions.



18. This is how I feel when it's time to go home from school.



19. I feel like this when I go to the media center (library).

20. This is how I feel about my school building.

SCORING PROCEDURES
FOR

THE FACES TEST

The 20 items of the Faces Test yield three scores on what can be called three factors. These three factors and the items that are part of these factors are given below.

FACTOR	ITEMS
I. Attitude toward school climate	1, 4, 7, 10, 13, 16, 19, 20
II. Attitude toward independent study	2, 5, 8, 11, 14, 17
III. Attitude toward school-work	3, 6, 9, 12, 15, 18

Each item is scored on a 3 point scale with a "positive" response getting a 3 and a "negative" response a 1. For example, for item 1, "This is how I feel when I come to school.", the weighting is

3 2 1

All other items, with the exception of 4, 12, and 18, are similarly weighted. For items numbers 4, 12, and 18, the three-point scale is reversed. For example, for item 4, "I feel like this when someone does not follow the rules.", the weighting is

1 2 3

In order to obtain a score on a factor, the weights for the items that are included in that factor are simply added. Thus, for factor I, the scores can range from 8 to 24, whereas for factors II and III, the scores can range from 6 to 18.

APPENDIX E

SEMANTIC DIFFERENTIAL

TESTING PROJECT

SEMANTIC DIFFERENTIAL TESTING PROJECT

Name _____

School _____

Grade _____ **Age** _____

Today I would like you to think about yourself and your schoolwork and how you feel about yourself and your schoolwork. The things you tell us will not be used in any way to give you a grade. Also, there are no right or wrong answers to the things we are going to ask you.

On the next six pages you will find a list of words which mean the opposite of each other. An example of these words is:

HAPPY **SAD**

At the top of each page will be some things about school like **Reading** and **Me**. If you feel that you are always happy with reading, place an X in box 1. If you feel you are not always happy with reading but are happy most of the time, place an X in box 2. If you feel you are sometimes happy and sometimes sad with reading, place an X in box 3. If you feel you are not always sad but sad most of the time with reading, place an X in box 4. If you feel you are always sad with reading, place an X in box 5. However, if you feel you cannot answer to the thing, place an X in box 3.

On each of the words on the next pages, try to think about how you really feel about the school thing at the top of the page and mark your answer so it is as close to how you feel. Mark only one answer for each pair of words. Make sure your answer is in the box, not outside the box.

Reading and Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS AWFUL	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
FAIR	ALWAYS FAIR	MOST ALWAYS FAIR	FAIR SOMETIMES UNFAIR	MOST ALWAYS UNFAIR	ALWAYS UNFAIR	UNFAIR
HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

School and Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS AWFUL	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
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HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

Arithmetic and Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS AWFUL	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
FAIR	ALWAYS FAIR	MOST ALWAYS FAIR	FAIR SOMETIMES UNFAIR	MOST ALWAYS UNFAIR	ALWAYS UNFAIR	UNFAIR
HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS AWFUL	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
FAIR	ALWAYS FAIR	MOST ALWAYS FAIR	FAIR SOMETIMES UNFAIR	MOST ALWAYS UNFAIR	ALWAYS UNFAIR	UNFAIR
HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

Social Studies and Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS NICE	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
FAIR	ALWAYS FAIR	MOST ALWAYS FAIR	FAIR SOMETIMES UNFAIR	MOST ALWAYS UNFAIR	ALWAYS UNFAIR	UNFAIR
HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

Science and Me

HAPPY	ALWAYS HAPPY	MOST ALWAYS HAPPY	HAPPY SOMETIMES SAD	MOST ALWAYS SAD	ALWAYS SAD	SAD
QUIET	ALWAYS QUIET	MOST ALWAYS QUIET	QUIET SOMETIMES LOUD	MOST ALWAYS LOUD	ALWAYS LOUD	LOUD
BAD	ALWAYS BAD	MOST ALWAYS BAD	BAD SOMETIMES GOOD	MOST ALWAYS GOOD	ALWAYS GOOD	GOOD
SLOW	ALWAYS SLOW	MOST ALWAYS SLOW	SLOW SOMETIMES FAST	MOST ALWAYS FAST	ALWAYS FAST	FAST
NICE	ALWAYS NICE	MOST ALWAYS NICE	NICE SOMETIMES AWFUL	MOST ALWAYS AWFUL	ALWAYS AWFUL	AWFUL
BIG	ALWAYS BIG	MOST ALWAYS BIG	BIG SOMETIMES SMALL	MOST ALWAYS SMALL	ALWAYS SMALL	SMALL
CRUEL	ALWAYS CRUEL	MOST ALWAYS CRUEL	CRUEL SOMETIMES KIND	MOST ALWAYS KIND	ALWAYS KIND	KIND
WEAK	ALWAYS WEAK	MOST ALWAYS WEAK	WEAK SOMETIMES STRONG	MOST ALWAYS STRONG	ALWAYS STRONG	STRONG
FAIR	ALWAYS FAIR	MOST ALWAYS FAIR	FAIR SOMETIMES UNFAIR	MOST ALWAYS UNFAIR	ALWAYS UNFAIR	UNFAIR
HIGH	ALWAYS HIGH	MOST ALWAYS HIGH	HIGH SOMETIMES LOW	MOST ALWAYS LOW	ALWAYS LOW	LOW
DISLIKE	ALWAYS DISLIKE	MOST ALWAYS DISLIKE	DISLIKE SOMETIMES LIKE	MOST ALWAYS LIKE	ALWAYS LIKE	LIKE
HARD	ALWAYS HARD	MOST ALWAYS HARD	HARD SOMETIMES EASY	MOST ALWAYS EASY	ALWAYS EASY	EASY

SCORING SCHEME
FOR
SEMANTIC DIFFERENTIAL

The scoring scheme for any concept on the Semantic Differential for children is based on six of the twelve adjective pairs. The six adjective pairs are: Happy-Sad, Bad-Good, Nice-Awful, Cruel-Kind, Fair-Unfair, Dislike-Like. In each case a "positive" response receives a 5 and a negative response a 1 with 4, 3, 2 used to complete the middle three boxes. For example:

Happy	5	4	3	2	1	Sad
Bad	1	2	3	4	5	Good

By summing across the six adjective pairs a total score can be obtained. These scores can range from a high of 30 to a low of 6.

BIBLIOGRAPHY

Anttonen, R. G. and G. Broome. Network Evaluation Report, 1977. Millersville State College.

Anttonen, R. G. and W. Jernegan. Evaluation Report Summer Happening and Network Schools, 1976. Millersville State College.

Anttonen, R. G. and W. Jernegan. Evaluation Report Network Schools and Summer Happening, 1975. Millersville State College.

Anttonen, R. G. and J. Brunner. Summer Happening Evaluation Report, 1974. Millersville State College.